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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/820,274	03/28/2001	Michael S. Brunner	KCX-196.1(15778.10)	1690

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EXAMINER

MENON, KRISHNAN S

ART UNIT	PAPER NUMBER
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1723

DATE MAILED: 09/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/820,274

Applicant(s)

BRUNNER ET AL.

Examiner

Krishnan S Menon

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 June 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,5-15,23 and 29-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,5-15,23 and 29-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Claims 1, 2, 5-15, 23 and 29-35 are pending.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 23 and 29-31 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Proulx et al (US 5,980,759.

Proulx (abstract, figures) teaches a filter cartridge having a cylindrical, constant radii filter element of charge-modified material (col 5 lines 15-26) and a cylindrical pleated filter element (non-constant radii), one inside the other (see figures), liquid passing radially (fig 1A), inside a chamber (fig 1 A), different contaminants removed by respective elements (col 6 lines 29-67) as in claim 23. constant radius element inside non-constant radius element as in claim 29 (fig 6), non-constant radius element inside constant radius as in claim 30 (fig 3), made of microfiber glass as in claim 31 (col 1 lines 44-50).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1,2,5-12,14,15 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Proulx (759).

Proulx (abstract, figures) teaches a filter cartridge having a finite surface filter of charge modified material (col 5 lines 15-26) and a pleated filter (non-constant radii), one inside the other (see figures), different contaminants removed by respective elements (col 6 lines 29-67), and second filter elements contain a laminate (see fig 5: layer 74, and col 6 lines 64-67) as in claim 1.

Proulx does not teach the dimensions of the pleats as between 0.0625 and 5 inches. However, it would be obvious to one of ordinary skill in the art at the time of invention that the dimensions of the pleats are determined by optimizing the surface area/capacity requirement of the filter. Discovery of an optimum value of a result effective variable in a known process is ordinarily within the skill of the art. In re Boesch and Slaney, 205 USPQ 215 (CCPA 1980); In re Antonie, 559 F.2d 618, 195 USPQ 6 (CCPA 1977); In re Aller, 42 CCPA 824, 220 F.2d 454, 105 USPQ 233 (1955). The same is applicable for claim 5.

The surface of the first filter is generally planar as in claim 2 (see figures). Pleats longitudinal, and transverse to fluid flow (see figures) as in claim 6, both filters in a chamber as in claim 7 (fig 1A), generally cylindrical and coaxial as in claim 8 (see figures). One filter of constant radii and the other of non-constant radii as in claim 9 and liquid flowing radially (see fig). Constant radius element inside non-constant radius element as in claim 10 (fig 6), non-constant radius element

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inside constant radius as in claim 11 (fig 3), made of microfiber glass as in claim 12 (col 1 lines 44-50).

Re claims 14 and 15, the relative surface areas of the first and second filters: it would be obvious to one of ordinary skill in the art at the time of invention that the relative surface areas could be optimized depending on the fluid to be treated and the capacity [Optimum value .. In re Boesch and Slaney, 205 USPQ 215 (CCPA 1980)].

Re claim 35, Proulx teaches all the elements of claim 23, but the pleat dimensions. However, it would be obvious to one of ordinary skill in the art at the time of invention that the dimensions of the pleats are determined by optimizing the surface area/capacity requirement of the filter.

[Optimum value : In re Boesch and Slaney 205 USPQ 215]

2. Claims 13 and 32-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Proulx (759) in view of Muramatsu et al (US 5,092,990).

Proulx teaches all the elements of claims 1 and 23 as above and including one other layer of non-woven web (col 2 lines 60-67). Instant claims add further limitation of the laminated layer having activated carbon, which Proulx does not teach. Muramatsu teaches pleated filter with activated carbon (col 4 lines 53-65). It would be obvious to one of ordinary skill in the art at the time of invention to use the teaching of Muramatsu in the teaching of Proulx for removal of organic matter in water treatment as taught by Muramatsu (see abstract).

Response to Arguments

Applicant's arguments with respect to pending claims have been considered but are moot in view of the new ground(s) of rejection.

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Krishnan S Menon whose telephone number is 703-305-5999. The examiner can normally be reached on 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda L Walker can be reached on 703-308-0457. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

Krishnan Menon
Patent Examiner


W. L. WALKER
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700